

Listing of Claims

Claim 1. (Withdrawn) A vaccine composition for immunizing an animal against infection by *Mycoplasma hyopneumoniae* which comprises
an immunizing amount of *Mycoplasma hyopneumoniae* bacterin;
an adjuvant mixture comprising an acrylic acid polymer and a mixture of a metabolizable oil and a polyoxyethylene-polypropylene block copolymer; and
a pharmaceutically acceptable carrier which vaccine composition after a single administration elicits protective immunity from *Mycoplasma hyopneumoniae*.

Claim 2. (Withdrawn) The vaccine composition of claim 1, wherein the adjuvant mixture consists of an acrylic acid polymer and a mixture of a metabolizable oil that comprises one or more terpene hydrocarbons and a polyoxyethylene-polypropylene block copolymer in a ration of about 1:25 to 1:50 of acrylic acid polymer to metabolizable oil/polyoxyethylene-polypropylene block copolymer mixture.

Claim 3. (Withdrawn) The vaccine composition of claim 1 wherein the adjuvant mixture comprises about 1-25% v/v of the vaccine composition.

Claim 4. (Withdrawn) The vaccine composition of claim 3 wherein the acrylic acid polymer is present in a final concentration of about 1% v/v and the terpene hydrocarbons/polyoxyethylene-polypropylene block copolymer mixture is present in a final concentration of about 5% to 10% v/v.

Claim 5. (Withdrawn) The vaccine composition of claim 3, wherein the adjuvant mixture comprises about 2% - 15% v/v of the vaccine composition.

Claim 6. (Withdrawn) The vaccine composition of claim 5, wherein the adjuvant mixture comprises about 5% - 12% v/v of the vaccine composition.

Claim 7. (Withdrawn) the vaccine composition of claim 1, wherein the metabolizable oil is squalane or squalene.

Claim 8. (Withdrawn) The vaccine composition of claim 6 or claim 7, wherein the acrylic acid polymer is Carbopol.

Claim 9. (Withdrawn) the vaccine composition of any of claims 1-8, further comprising at least one bacterin selected from the group consisting of *Haemophilus parasuis*, *Pasteurella multocida*, *Streptococcus suis*, *Actinobacillus pleuropneumoniae*, *Bordetella bronchiseptica*, *Salmonella choleraesuis* and leptospira bacteria.

Claim 10. (Currently amended) A method for protecting ~~aan~~ porcine animal against disease caused by *Mycoplasma hyopneumoniae* comprising the step of administering to said porcine animal a vaccine composition which comprises an immunizing amount of a *Mycoplasma hyopneumoniae* bacterin; an adjuvant mixture comprising a polyacrylic acid polymer and a mixture of metabolizable oil and a polyoxyethylene-polypropylene block copolymer; a ~~pharmaceutical~~pharmaceutically acceptable carrier which vaccine composition, after a single administration elicits protective immunity from *Mycoplasma hyopneumoniae* infection; and wherein the step of administering to said porcine animal is done by a method chosen from the group consisting of, intramuscular injection, subcutaneous injection, oral administration and nasal administration.

Claim 11. (Currently amended) The method of claim 10, wherein the immunizing amount of said ~~bacteria-bacterin~~ is about 1×10^8 to 3×10^{11} *Mycoplasma hyopneumoniae* DNA Cell equivalents, (MHDCE/mL).

Claim 12. (Currently amended) The method according to claim 11 wherein the immunizing amount of said ~~bacteria-bacterin~~ is about 1×10^9 to 3×10^9 MHDCE/mL.

Claim 13. (Cancelled)

Claim 14. (Original) The method of claim 10 wherein the adjuvant mixture consists of an acrylic acid polymer and a mixture of metabolizable oil that comprises one or more terpene hydrocarbons and a polyoxyethylene-polypropylene block copolymer present in a final concentration of about 1-25% v/v.

Claim 15. (Currently amended) The method of claim 14, wherein the polyacrylic acid polymer of the adjuvant mixture is ~~Carbopol~~CARBOPOL.

Claim 16. (Currently amended) The method of claim 14, wherein the metabolizable oil of the adjuvant mixture is a terpene hydrocarbon selected from the group consisting of squalene and squalane.

Claim 17. (Currently amended) The method of any claims 10-16, further comprising coadministering at least one additional bacterin selected from the group consisting of *Haemophilus* ~~*Haemophilus*~~ *parasuis*; *Pasteurella* ~~*multocida*~~ *multocida*; ~~*Streptococcus*~~ *Streptococcus* *suis*; *Actinobacillus pleuropneumoniae*; *Bordetella bronchiseptica*; *Salmonella choleraesuis*; and leptospira bacteria.

Claim 18. (Withdrawn) A Vaccine comprising inactivated *Mycoplasma hyopneumoniae*, a metabolizable oil, a polyoxyethylene-polypropylene block copolymer and an acrylic acid polymer in the form of an oil in water emulsion.